



Chesapeake Bay Program
SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE
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December 4, 2017

RE: STAC Quantifying Ecosystem Services Workshop Report

Nicholas DiPasquale, Chair, Chesapeake Bay Program Management Board
U.S. Environmental Protection Agency
410 Severn Avenue, Suite 109
Annapolis, MD 21403

Cc: Management Board; Water Quality Goal Implementation Team; Local Government Advisory Committee;

Dear Director DiPasquale,

Please see the attached STAC report entitled, “*Quantifying Ecosystem Services and Co-Benefits of Nutrient and Sediment Pollutant Reducing BMPs*”. This report outlines specific recommendations identified by participants at STAC’s March 29-30, 2017 workshop with a summary of workshop proceedings.

The main goals of this workshop were to identify the “ecosystem service” benefits (broadly, the benefits gained by humans from ecosystems) of implementing best management practices (BMPs) designed to improve water quality, and discuss how they could be integrated into existing Chesapeake Bay Program (CBP) Partnership decision-making tools. The workshop also endeavored to create a shared understanding among workshop participants of the opportunities for, and constraints on, efforts to quantify these benefits. The workshop demonstrated that the identification, quantification, and valuation of ecosystem service benefits are distinct, but related, activities; each can be useful for local decision makers, depending on the context. Importantly, if local decision makers better understand the additional benefits of BMPs already being implemented for water quality improvements – added ‘bonus’ benefits such as flood risk reduction, air pollution treatment, and enhanced recreational opportunities – they may better leverage available resources and meet multiple objectives for their communities. An additional objective of this workshop was to generate a list of ecosystem services and the associated BMPs for which quantification is a priority – both those for which data gaps currently exist and those that are “ready to go” (i.e., data/analyses exist to support quantification) with next steps for how to incorporate these into existing Partnership management tools.

There were five key findings reiterated throughout the workshop that should directly influence Partnership decisions on the next steps in this process:

- Clearly and transparently communicate uncertainties surrounding quantification.

- Scale and location of a given BMP will have direct implications in terms of the quantification and valuation of its benefits.
- The language and definition of benefits should be clarified and simplified. The task of simply defining the term “ecosystem services” at the workshop proved difficult – a concept that means different things to different audiences.
- The level of quantification and/or valuation needed depends on the user.
- Focus efforts on benefits and services that are of the most importance and relevance to local elected officials and decision makers.

Through a workshop participant voting process, the following five benefits were identified as the recommended highest priority benefits on which the Partnership should focus future actions on:

- Ecosystem sustainability—benefits to fish and other aquatic resources in local streams and rivers
- Hazard mitigation—flood, drought and fire risk reduction
- Recreation and aesthetics—hunting, fishing, swimming, boating, nature watching, outdoor education
- Drinking water—improvements to both quantity and quality
- Human health—improved air quality, reduced heat related illnesses, fewer water borne illnesses

Moving forward, workshop participants reached consensus on several specific recommendations, including:

1. The CBP Partnership should build upon the recent evaluation by Tetra Tech on effects of BMP implementation on each of the CBP’s management strategies. This information could be made more accessible and user-friendly, possibly by incorporating results directly into the CBP Partnership’s Chesapeake Assessment and Scenario Tool (CAST) so that it could support short-term decisions and be used to prioritize further work on quantification.
2. The Partnership should assemble the appropriate expertise to examine existing methods to quantify additional benefits. The outcome would be a proposed framework and approach by which the quantification of these and other future identified benefits from implementation of the BMPs could be measured and incorporated into Partnership’s CAST tool.
3. Targeted outreach efforts, listening sessions or focus groups should be held to solicit input from a broader array of stakeholders. Specifically, input is needed on the specific ecosystem services/additional benefits that are of the most importance/relevance to them; their recommendations for a more understandable set of terminology to be adopted and used by the Partnership; and feedback on the relative importance of identification versus quantification versus valuation across the range of priority benefits.

We hope the Management Board, Goal Implementation Teams, and various workgroups find these recommendations to be useful, and we look forward to your feedback. STAC respectfully requests a written response to the workshop findings and recommendations from the CBP Management Board Chair by March 4, 2018.

Please direct any questions you may have about this report and its recommendations to Rachel Dixon, Coordinator of the CBP's Scientific and Technical Advisory Committee, or Beth McGee (Chesapeake Bay Foundation) and Mark Bryer (The Nature Conservancy), workshop co-chairs.

On behalf of the entire STAC, thank you again for considering these recommended next steps, and we look forward to working with you closely on this in the future.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Benham", with a long horizontal flourish extending to the right.

Brian Benham
Chair, Chesapeake Bay Program's Scientific and Technical Advisory Committee